CHAPTER 7: PAPER EJECTION SECTION

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THEORY OF OPERATION

1. Paper Separation System

- Separation of Paper

A printed sheet is separated from the Drum by the Separator and Separation fan.

- Air Blow from Separator Tip

When the lead edge of a printed sheet sticking to the Drum approaches the Separator, air is blown on its center from the tip of the Separator through the operation of the Separation air pump, which is attached on the Rear side frame. As a result, the lead edge of the printed sheet is blown off from the Drum and led to under the Separator.

- Function of Separation Fan

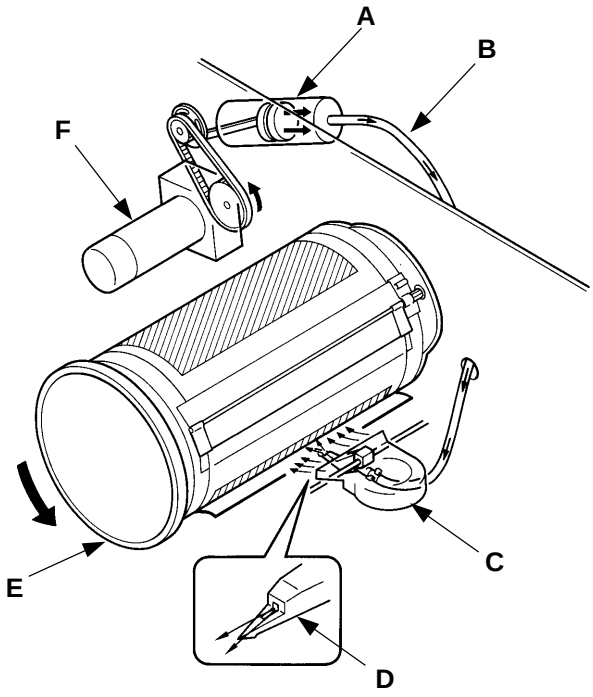
In addition to the air blow from the Separator tip, the Separation fan also blows air on the printed sheet in wide range from above the Separator, assisting the Separator to separate the whole sheet from the Drum.

The air flow rate of the Separation fan can be adjusted with the Memory switch.

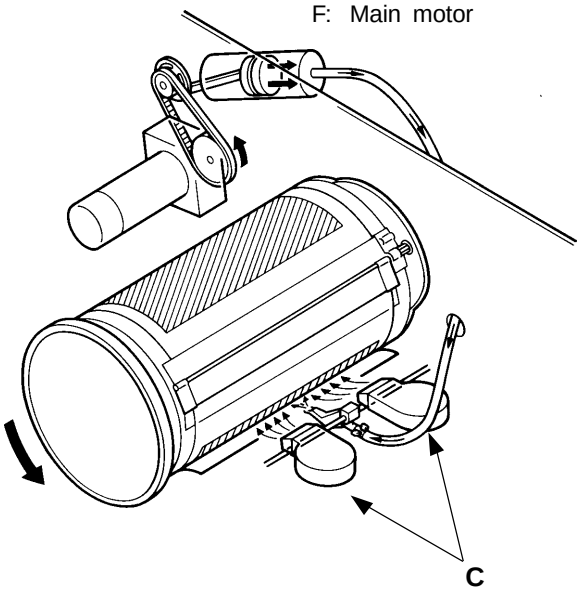
- Operation of Separation Air Pump

The Separation air pump is driven by the Main motor via a belt and send air to the tip of the Separator through a rubber hose once during one rotation of the Drum, to blow air on the lead edge of the printed sheet in time.

A: Separation air pump
B: Rubber hose
C: Separation fan
D: Separator
E: Drum
F: Main motor



A3 machine



B4 machine

Test Mode (memory SW) No.223 Separation Fan Air Flow Rate Adjustment

Memory Switch	0	1	2	3
Power-on Time (%)	100%	70%	50%	30%

2. Separator Positioning System

- Motion of Separator

The Separator, which is mounted on the Separator shaft, is normally at a position close to the Drum to remove a printed sheet.

When the Clamp section of the Drum approaches the Separator, however, the Separator is shifted down off the Drum by the turn of the Separator shaft, which is driven by the Separator lever, in order to provide clearance for the passage of the Clamp section.

- Home Position of Separator

The Separator lever, which is attached at one end of the Separator shaft, has a collar at one end which is held close to the Drum body support (left), and at the other end is kept pressed on the Separator adjustment cam by spring tension. [as shown in Fig. 1]

- Operation of Separator Lever

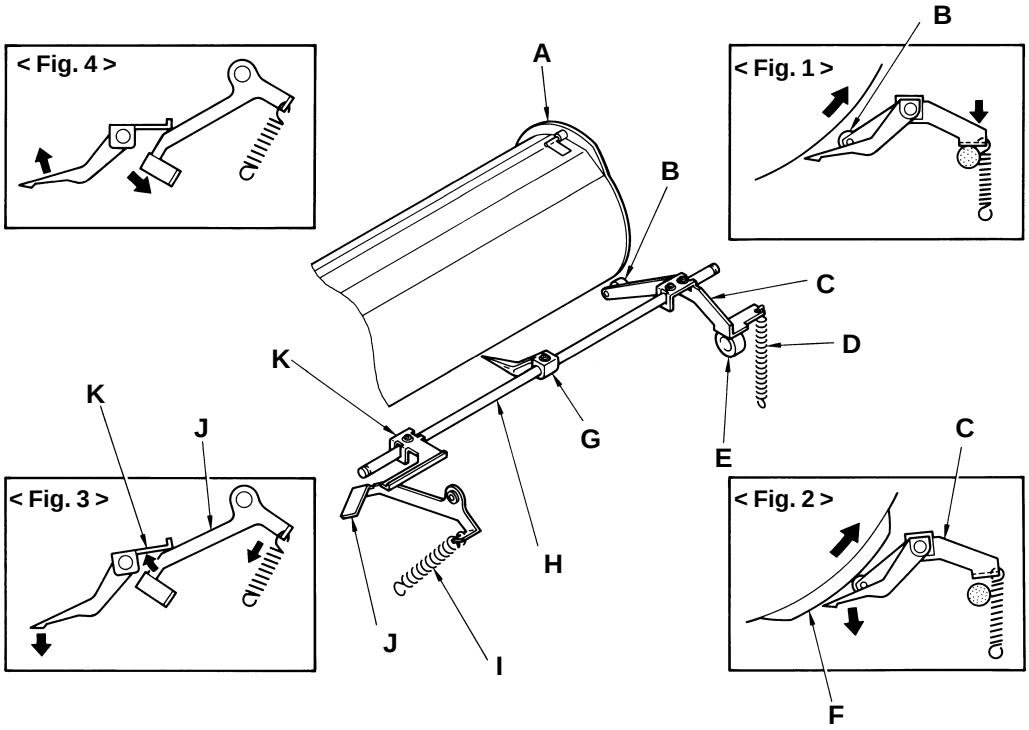
When the Clamp section of the Drum approaches the Separator during rotation, the high point of the Drum body support (left) pushes down the Separator collar, shifting the Separator down off the Drum. [as shown in Fig. 2]

When the Clamp section clears, the Separator is raised close to the Drum again by the spring tension on the Separator lever to remove a printed sheet from the Drum. [as shown in Fig. 1]

- Positioning of Separator in Drum Removal

When the Drum is removed, the Release lever is pulled by the Release spring and turned upward, pushing up the Separator release lever, which is attached at the other end of the Separator shaft. By the shift-up of the Separator release lever, the Separator shaft is turned to lower the Separator off the Drum to avoid damages to the Screen. [as shown in Fig. 3]

When the Drum is locked into position, the Drum frame pushes aside the Release lever, returning the Separator close to the Drum to allow paper separation. [as shown in Fig. 4]



A: Drum body support (left)
B: Separator collar
C: Separator lever
D: Separator spring
E: Separator adjustment cam
F: Drum body support (left)
G: Separator
H: Separator shaft
I: Release spring
J: Release lever
K: Separator release lever

THEORY OF OPERATION

LED RCV1 Paper receiving sensor 1
– Light up when light path is blocked
LED RCV2 Paper receiving sensor 2
– Light up when light path is blocked
Test Mode No.69 Suction fan
No.131 Suction clutch

3. Paper Ejection System

- Paper Transfer

Once a printed sheet is separated from the Drum, it is transported to the Paper receiving tray by the Transfer belts, attracted by the Suction fan.

- Rotation of Transfer Belts

When the Main pulley rotates, driven by the Main motor via the Main belt, the Suction drive junction gear rotates via the Suction drive belt.

The rotation of the junction gear is transmitted to the the Suction gear pulley of the Suction unit via the Suction clutch unit, thus rotating the Suction pulley shaft which drives the Transfer belts to transport printed sheets to the Paper receiving tray.

- Change of Rotation Speed of Transfer Belts

The rotation speed of the Transfer belts is changed in two ways according to the rotation speed of the Drum (print speed), controlled by the Suction clutch.

When the Drum is rotated at a low speed (print speed 1 or 2), the Suction clutch is activated, thus leading the Transfer belts to rotate 1.8 times faster than the Drum to eject printed sheets.

When the Drum is rotated at a high speed (print speed 3, 4 or 5), on the other hand, the clutch is deactivated, thus leading the belts to rotate 1.2 times faster than the Drum.

By accelerating the Transfer belts against the Drum less in high-speed printing in this way, ejected sheets are arranged neatly in the Paper receiving tray in high-speed printing as well.

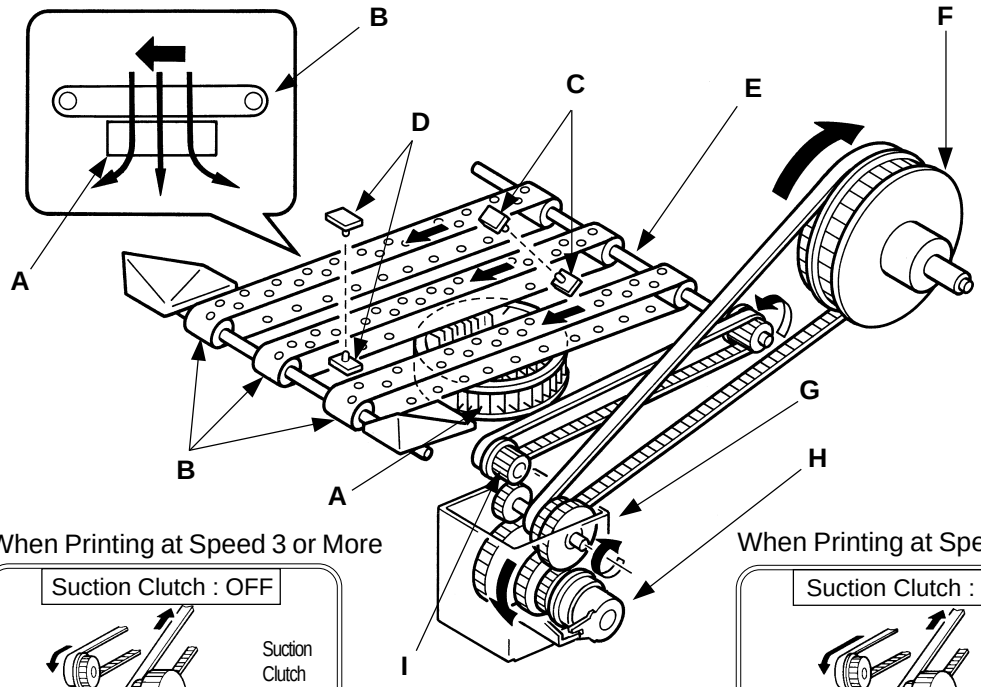
When printing on A3 or Ledger-size paper, however, the Transfer belts are always rotated 1.8 times faster than the Drum regardless of the print speed.

- Function of Suction Fan

The Suction fan, located under the Transfer belts, draws printed sheets onto the Transfer belts for secure paper transfer.

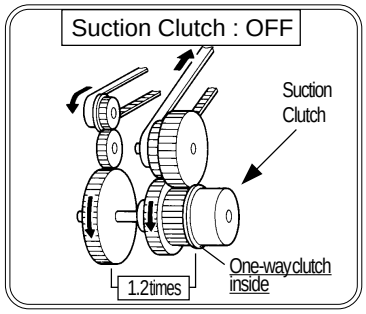
- Paper Transfer Monitoring

The Paper receiving sensors 1 and 2 monitor paper transfer in the paper ejection section to detect paper jams.

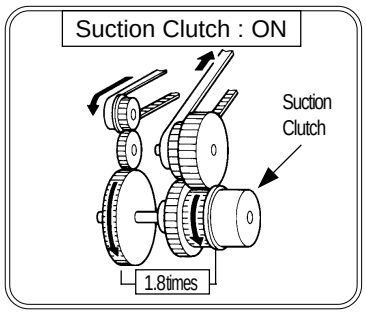


A: Suction fan
B: Transfer belt
C: Paper receiving sensor 1
D: Paper receiving sensor 2
E: Suction pulley shaft
F: Main pulley
G: Suction clutch unit
H: Suction clutch
I: Suction gear pulley

When Printing at Speed 3 or More



When Printing at Speed 2 or Less



Test Mode No.26 Jump wing SW 1
– Short interval beeps when pressed
No. 27 Jump wing SW 2
– Short interval beeps when pressed
No. 80 Wing motor

4. Paper Ejection Guides Auto-setting System

- Basic

The paper ejection guides (Jump wings, Side flaps and Belt roller) are automatically positioned for secure paper ejection according to the size of paper.

- Movement of Paper Ejection Guides

The paper ejection guides (Jump wings, Side flaps and Belt roller) change their positions in three ways according to the opened width of the Side guides on the Paper feed tray and setting of the Paper feed pressure SW.

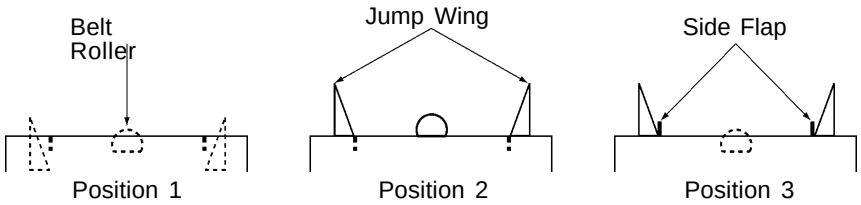
When the Wing motor rotates, the rotation force is transmitted, in the following manner, to the Wing cam shaft, on which the Wing cams, Roller cam and Sw cam are attached.

<Wing motor ➡ Wing motor pulley ➡ Belt ➡ Wing gear ➡ Cam gear ➡ Wing cam shaft>

When the Wing cam shaft rotates, the Wing cams rotate, moving up and down the Jump wings and Side flaps, and the Roller cam does, moving up and down the Belt roller.

- Control of Paper Ejection Guides' Position

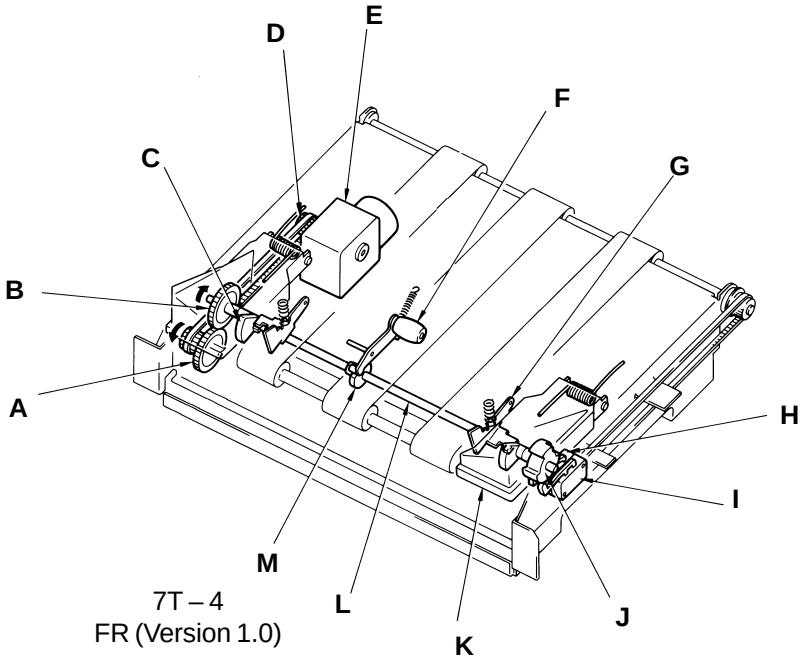
The two switches, i.e. **Jump wing SW1 and SW2**, keep track of the rotation of the SW cam to arrange the paper ejection guides in the following ways according to the size of paper.



Position	Paper Size (Paper Width)	Paper Feed Pressure Setting	Jump Wing SW		Jump Wing	Belt Roller	Side Flap
Position 1	A3	Card	Released	Released	Down	Down	Down
Position 2	A3	Normal	Pressed	Released	Up	Up	Down
	A4 to A3 (Ledger to letter)	Card/ Normal					
Position 3	Less than A4	Card/ Normal	Released	Pressed	Up	Down	Up

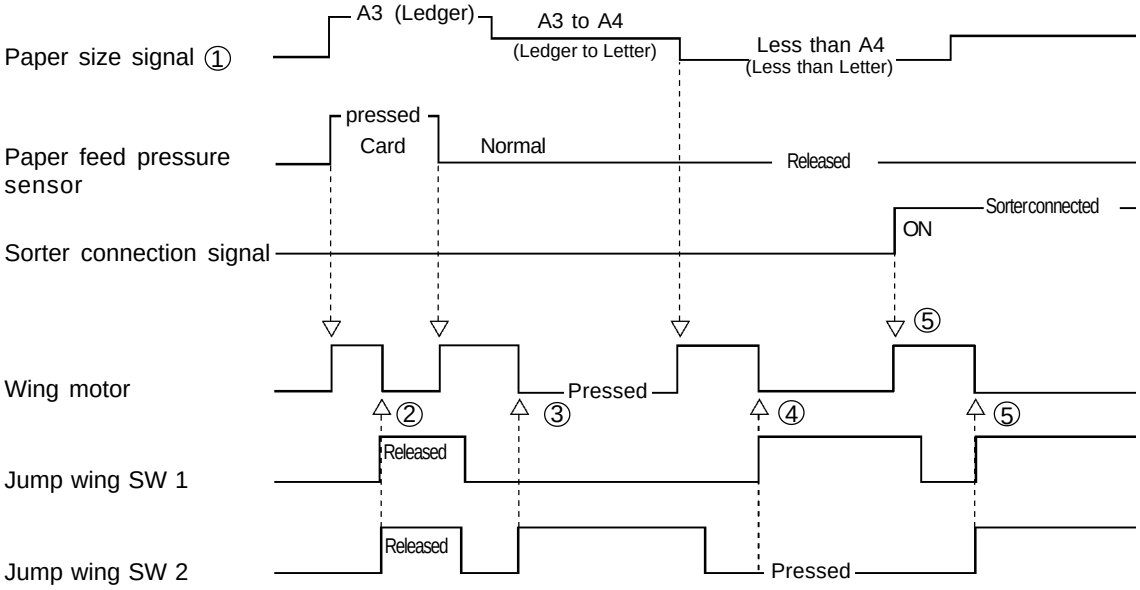
- When the sorter connection signal is ON(TM2500 connected), the position-1 is selected regardless of the paper size.
- Can be fixed at the position of the Jump wing in the user mode.

A: Wing gear
B: Cam gear
C: Wing cam
D: Wing motor pulley
E: Wing motor
F: Belt roller
G: Side flap
H: Jump wing SW 2
I: Jump wing SW 1
J: SW cam
K: Jump wing
L: Wing cam shaft
M: Roller cam



- Timing Chart -

Paper Ejection Guides Auto-setting System



① The Paper size signal is determined by the information from the Paper feed tray, i.e. Paper size potentiometer and Paper size det. sensor.
② If the paper size is A3 or Ledger, the Wing motor rotates until the Jump wing SW1 and SW2 are released.
③ If the paper size is A3 and the Paper feed pressure switch has been set to “NORMAL,” or if the paper size is less than A3 or A4 or more, the wing motor will be turned on until the jump wing SW1 is pressed and the Jump wing SW2 is released.
④ If the paper size is less than A4 (or Letter), the Wing motor rotates until the Wing SW1 is released and SW2 is pressed.
⑤ If the Sorter connection signal is ON, i.e. TM2500 or TM5000 is connected, the Wing motor rotates until the Jump wing SW1 and SW2 are released, regardless of the paper size.

* If neither the Jump wing SW1 nor SW2 is actuated ON **within 5 seconds** after the Wing motor is activated , the machine assumes the Wing motor has locked and displays the error code **[T 20]**.

* If either the Jump wing SW1 or SW2 is kept actuated ON **for 5 seconds** since the Wing motor is activated , the machine assumes the Wing motor has locked and displays the error code **[T 20]**.

T20(Wing Motor Lock)
• Jump wing SW1 not turned on/off • Jump wing SW2 not turned on/off

5. Paper Receiving System

- Precision Stacking Tray

The Receiving tray paper guides are equipped with two arrays of flaps which are weighted square plates. These are called "Paper Arrangers".

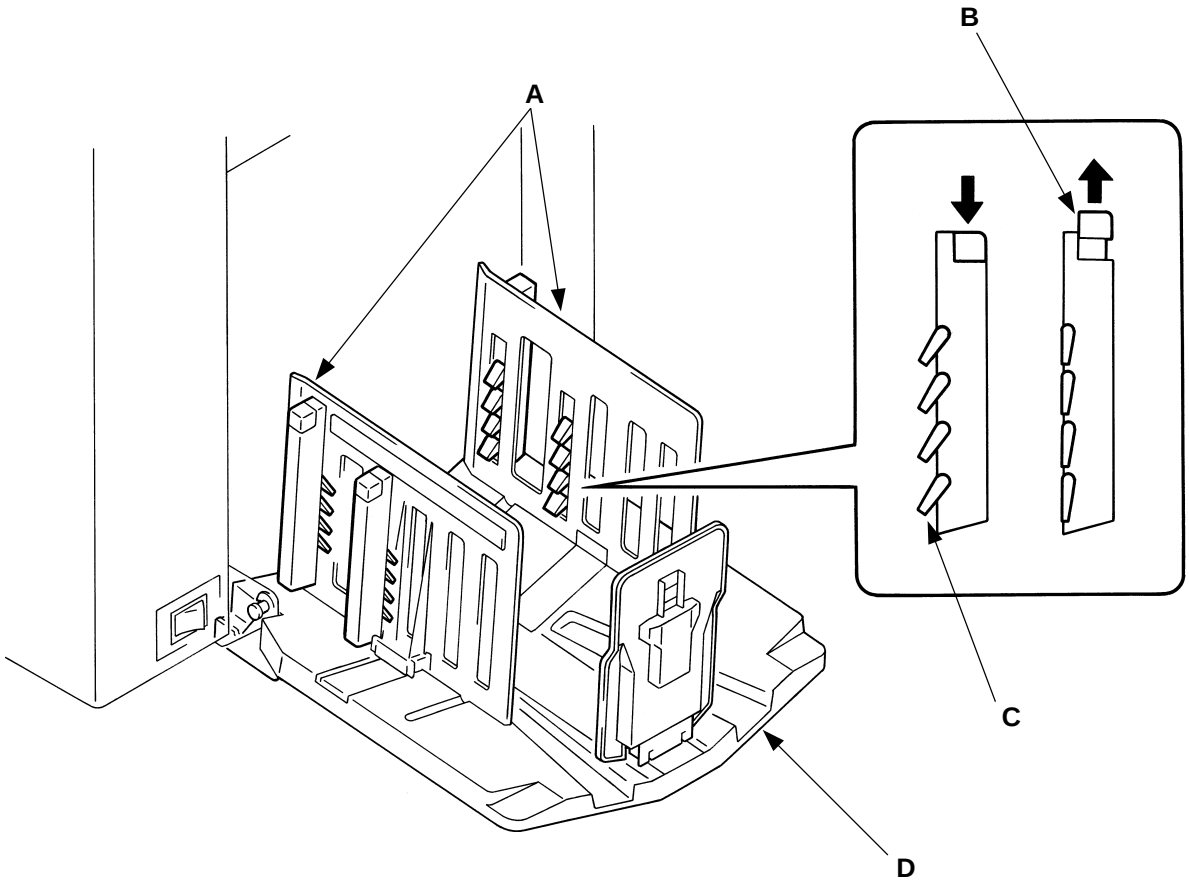
The Paper arrangers lead ejected sheets, which mostly curl in a mound shape, to float down on the V-shaped Paper receiving tray in a bowl shape. As a result, ejected sheets are accumulated neatly on the Paper receiving tray with less set-offs.

- Opening / Closing the Paper Arrangers

The Paper arrangers are opened and closed by a push and a pull of the Paper arranger knob.

- Paper Back Stop

The paper back stop cushion can be moved up/down, depending on the type of printing paper.



A: Receiving tray paper guide
B: Paper arranger knob
C: Paper arrange
D: V-shaped paper receiving tray

REMOVAL & ASSEMBLY

1. Separator

< Removal Procedure >

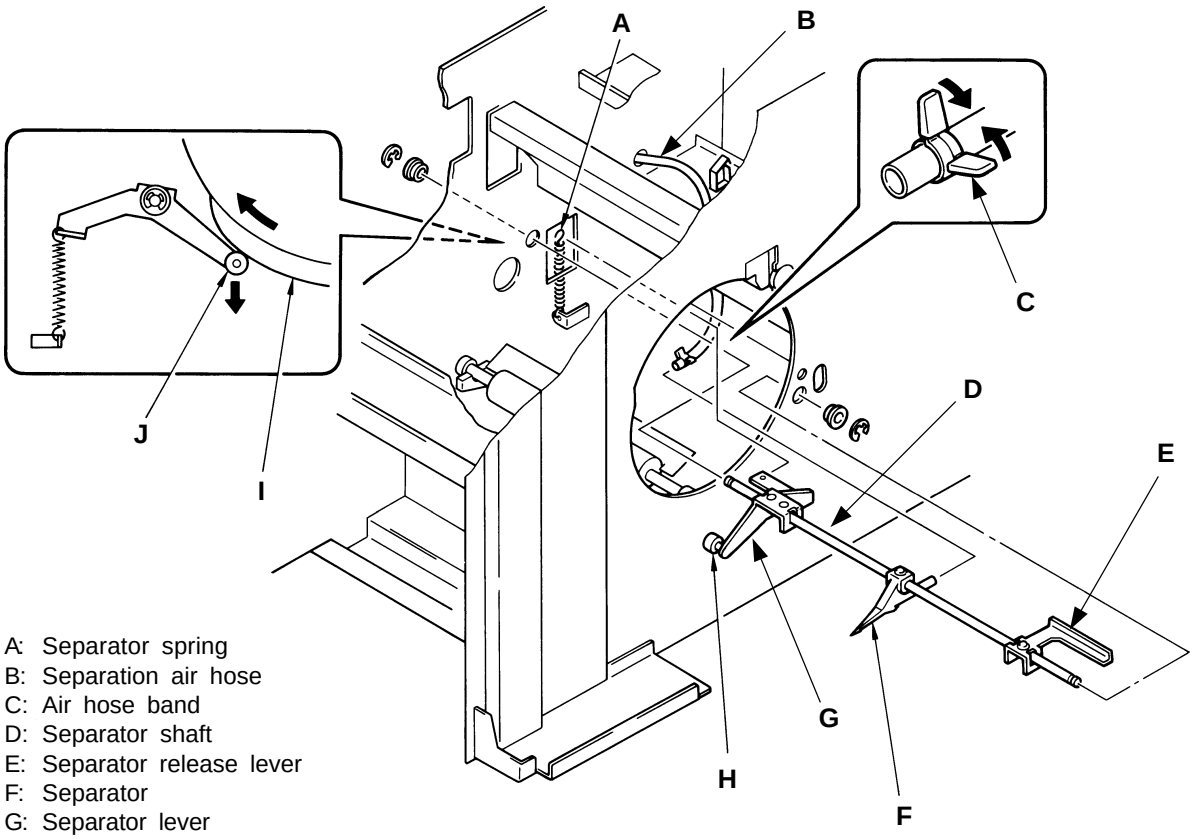
1. Take out the Drum from the machine and turn OFF the power.
   Remove the Back cover.
2. Unhook the Separator spring from the Separator lever (at the upper point).
3. Remove E rings and metal bearings from both ends of the Separator shaft.
4. Pinch the knobs of the Hose band on the Separation air hose and shift the band upwards.
   Remove the Separation air hose from the Separator.
5. Take out the Separator ass'y from the opening for the Drum installation.

- Precautions in Assembly -

- Check that the Separator collar gets in contact with the high (protruding) part of the Drum body support (left) at the middle as indicated in the figure below, by rotating the Drum with a press of SW1 on the System PCB.

- Adjustment after Assembly-

- Check the position of the Separator after assembly and, if required, adjust it.
  (Refer to the page 7A-1.)



A: Separator spring
B: Separation air hose
C: Air hose band
D: Separator shaft
E: Separator release lever
F: Separator
G: Separator lever
H: Separator collar
I: Drum body support (left)
J: Separator collar

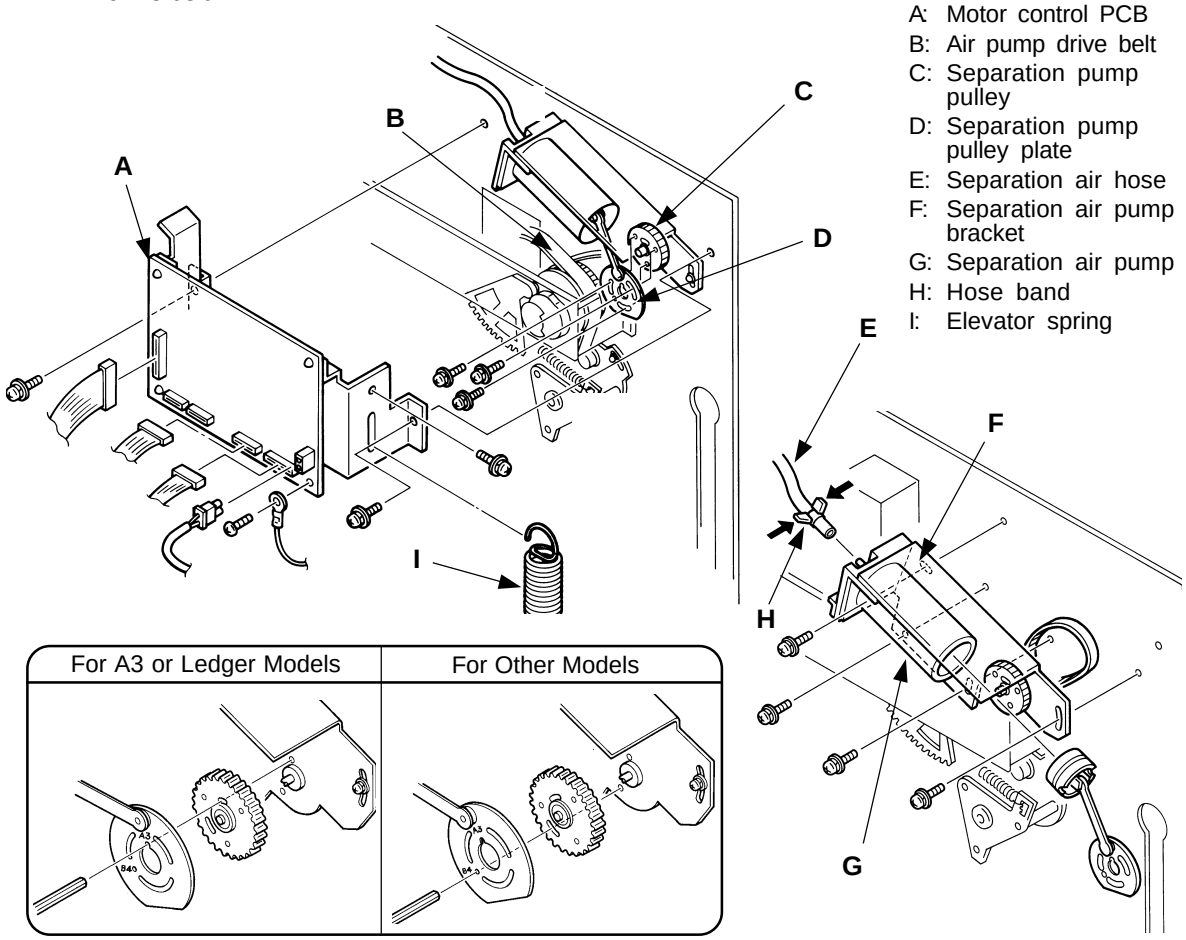
2. Separation Air Pump

< Removal Procedure >

1. Move up the Paper feed tray, set the Drum to the Position A, turn off the power, and remove the Back cover.
2. Remove the Elevator spring from the Motor control PCB bracket.
3. Disconnect the connectors from the Motor control PCB, remove three mounting screws of the Motor control PCB bracket and remove the bracket with the Motor control PCB attached.
4. Remove three securing screws on the Separation pump pulley plate and separate the plate from the Separation pump pulley.
5. Remove four mounting screws of the Separation air pump bracket and remove the Separation air pump with the bracket attached.
6. Disengage the Air pump drive belt from the Separation pump pulley.
7. Pinch the knobs of the Hose band on the Separation air hose and shift the band upwards. Remove the Separation air hose from the Separation air pump.

- Precautions in Assembly -

- When securing the Separation pump pulley plate onto the Separation pump pulley, be sure to align the notch or hole on the pulley plate with the counterpart on the Separation air pump bracket.
  For A3 or Ledger model, use the alignment notch maked "A3" on the pulley plate, while for other models, use the alignment hole marked "B4" on it. (Refer to the figures below.)
- When securing the Separation air pump bracket, push it up to apply tension to the Air pump drive belt.



A: Motor control PCB
B: Air pump drive belt
C: Separation pump pulley
D: Separation pump pulley plate
E: Separation air hose
F: Separation air pump bracket
G: Separation air pump
H: Hose band
I: Elevator spring

For A3 or Ledger Models	For Other Models

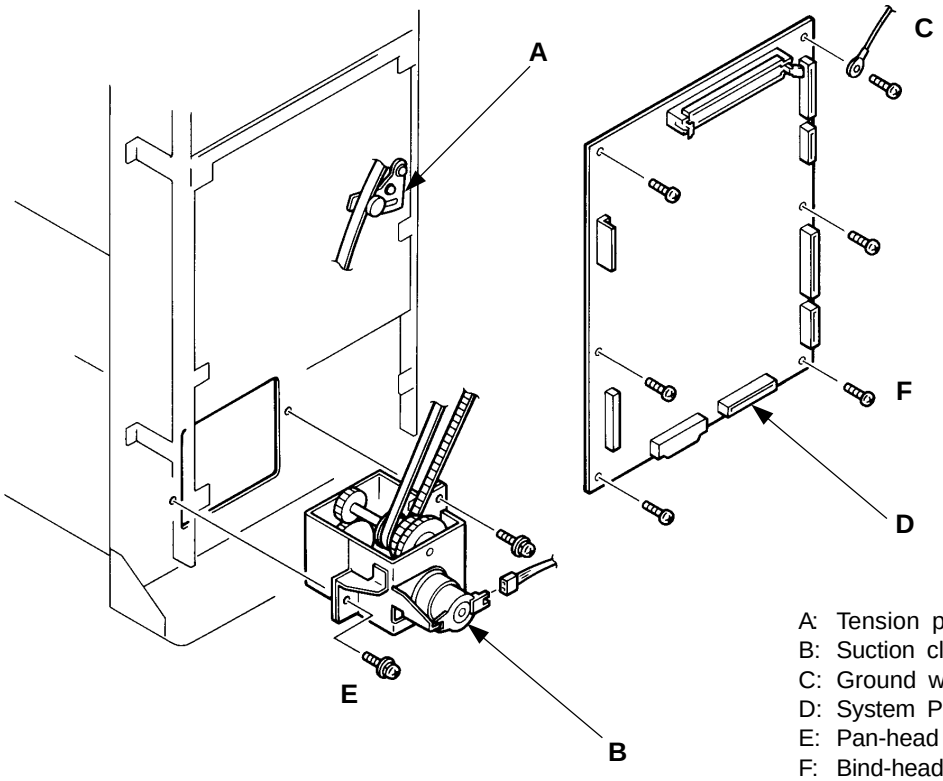
3. Suction Clutch Unit

< Removal Procedure >

1. Turn OFF the power and remove the Back cover.
2. Disconnect the connectors on the System PCB, remove 6 mounting screws of the PCB and remove the PCB.
3. Disconnect the connector of the Suction clutch, remove two mounting screws of the Suction clutch unit and remove the unit from the Side frame.

- Precautions in Assembly -

- Adjust the position of the Suction drive belt tensioner to apply tension to the belt.
- When attaching the System PCB, use the upper right screw to fix the ground wire together.



A: Tension pully
B: Suction clutch unit
C: Ground wire
D: System PCB
E: Pan-head Screw SW. W M4x8
F: Bind-head Screw M3x6

4. Suction Clutch

- Disassembly

1. Turn off the power and remove the Suction clutch unit(see the previous page).
2. Remove three mounting screws of the Suction clutch unit.
3. Remove an E ring at the top of the Suction clutch shaft and slide the Suction clutch off the shaft.

- Precautions for Reassembly

- Pay attention to the direction of the Low-speed gear(see the figure below).
- Apply grease to the Idler gear.
- Hook the claw of the Suction clutch onto the hook of the Clutch cover assembly(see Fig. a).

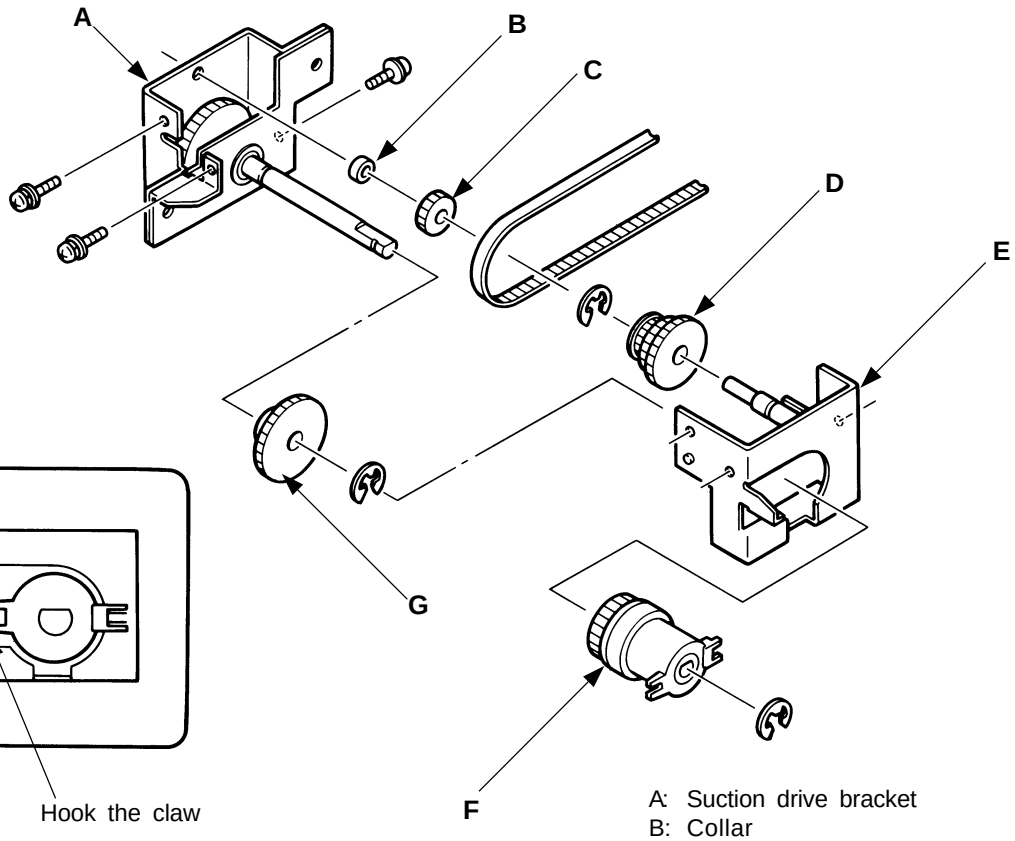
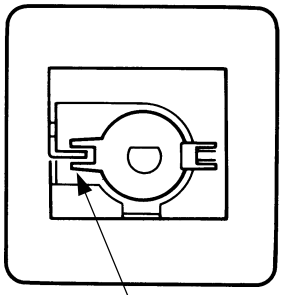


Fig. a

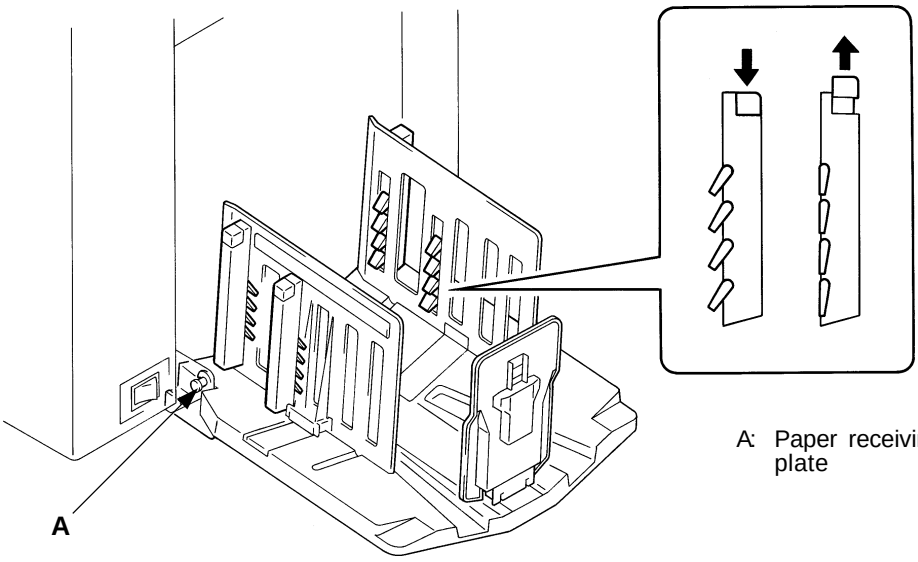


A: Suction drive bracket
B: Collar
C: Idler gear
D: Speed change gear
E: Clutch cover assembly
F: Suction clutch
G: Low-speed gear (One-way Clutch)

5. Paper Receiving Tray

< Removal Procedure >

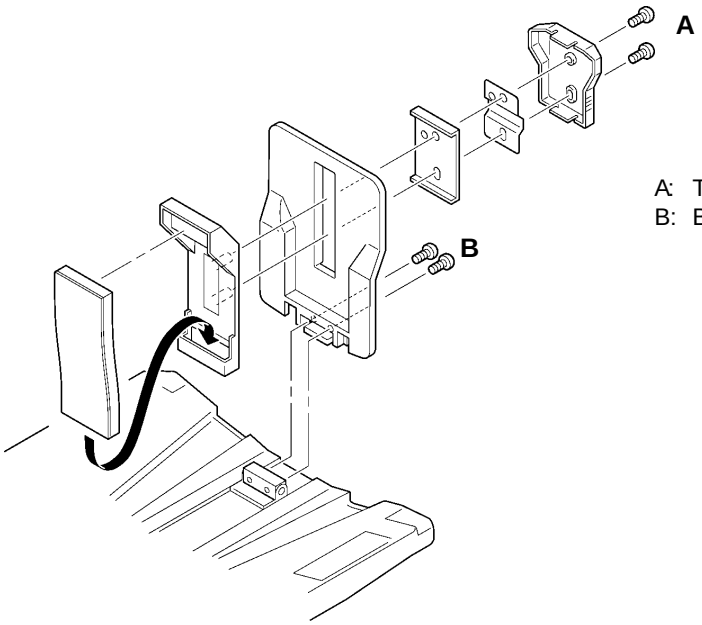
1. Remove two mounting screws of the Paper receiving tray lock plates on the left and right of the Paper receiving tray and remove the lock plates.
2. Remove the Paper receiving tray.



A: Paper receiving tray lock plate

Disassembly of Paper Back Stop

For disassembly and reassembly of the Paper back stop, see the figure below.



A: Tapping screws
B: Bind-head screw M3x6

LED RCV1 Paper receiving sensor 1
– Light up when light path is blocked
RCV2 Paper receiving sensor 2
– Light up when light path is blocked
Test Mode No.19 Paper receiving sensor 1
– Short interval beeps when light path is blocked
No.20 Paper receiving sensor 2
– Short interval beeps when light path is blocked
No.62 Main motor rotation variable speed

6. Suction Unit

< Removal Procedure >

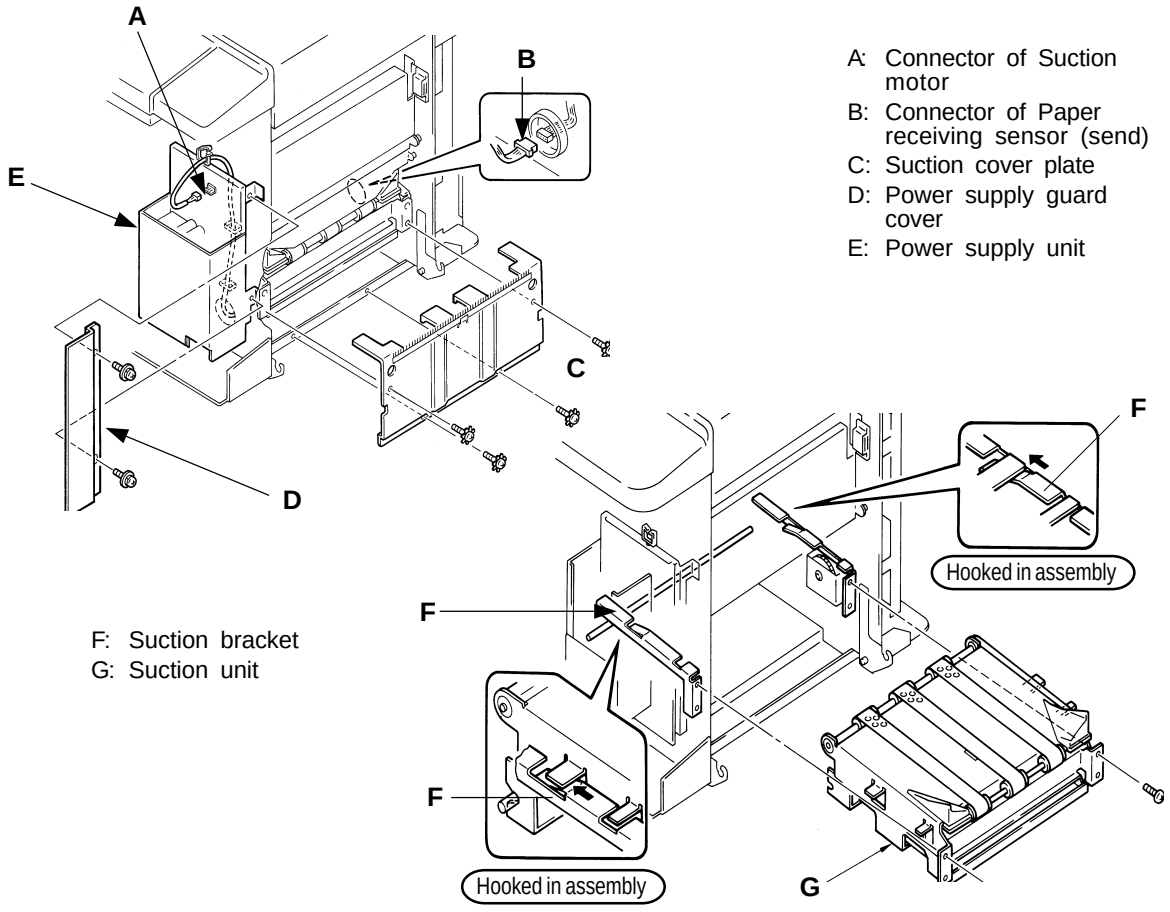
1. Turn OFF the power, and remove the Paper receiving tray and Front right cover.
2. Remove four mounting screws on the Suction cover plate, and remove the plate.
3. Remove two mounting screws on the Power supply guard cover, and remove the cover.
4. Unscrew and remove the Ground wire of the Suction motor from the Power supply unit and disconnect the connector **CN3M** from the Power supply unit.
   Pull the wire harness of the Suction motor towards the Suction unit.
   [Note]
   The wire harness is clamped onto the Power supply unit at the back of the unit.
5. Disconnect the Connector of the Paper receiving sensor (send).
   Remove two mounting screws on the Suction unit and remove the unit from the machine.

- Precautions in Assembly -

- When installing the Suction unit into the machine, make sure to position it correctly and secure it firmly against the hooks on the railings.
  If not hooked firnly onto the railings, the unit may be raised out of position and hit against the Separator, causing the Transfer belts on the Suction unit torn or the Separator broken.

- Checking after Mounting

- Check engagement of the gears between the Suction unit and the machine by rotating the Drum with Test mode **No.62**, after assembly. Reposition the Suction unit if a loud howling noise is heard.
- Check whether the light path of the Paper receiving sensors 1 and 2 are aligned.



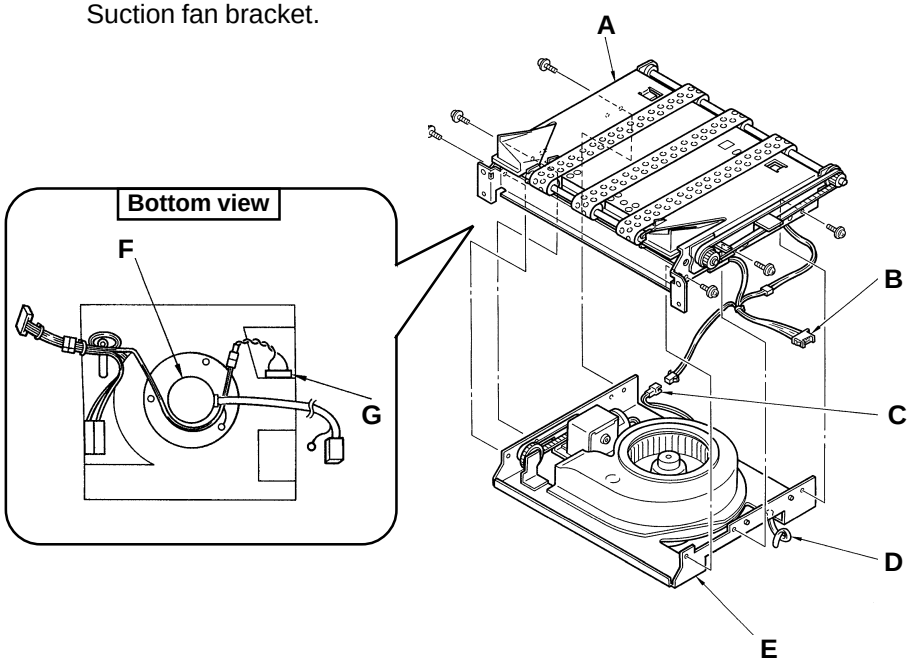
A: Connector of Suction motor
B: Connector of Paper receiving sensor (send)
C: Suction cover plate
D: Power supply guard cover
E: Power supply unit

F: Suction bracket
G: Suction unit

7. Transfer Belt

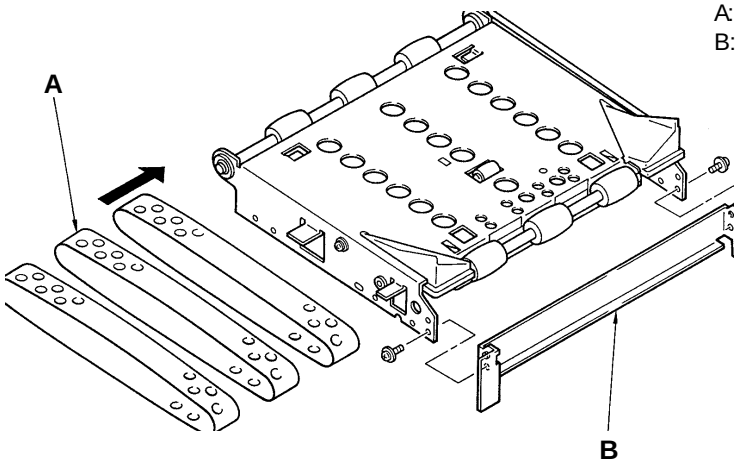
< Removal Procedure >

1. Remove the Suction unit from the machine, referring to the page 7R-6.
2. Remove six mounting screws on the Suction face cover unit.
3. Disconnect the connector of the Wing motor and separate the Suction face cover unit from the Suction fan bracket.



A: Suction face cover unit
B: Connector to the machine
C: Connector of the Wing motor
D: Wire clamper
E: Suction fan bracket
F: Suction fan ass'y
G: Wing motor

4. Remove two mounting screws on the Suction stay, and remove the stay.
5. Remove the Transfer belts from the Suction face cover.



A: Transfer belt
B: Suction stay

- Precautions in Assembly -

- The positioning bosses on the Suction stay should be matched with the holes on the Suction face cover.
- The wire harness of the Wing motor should be led around the Suction fan ass'y .
- The positioning bosses on the Suction fan bracket should be matched with the holes on the Suction face cover unit.

Test Mode No.26 Jump wing SW1
– Short interval beeps when pressed
No.27 Jump wing SW2
– Short interval beeps when pressed
No.80 Wing motor

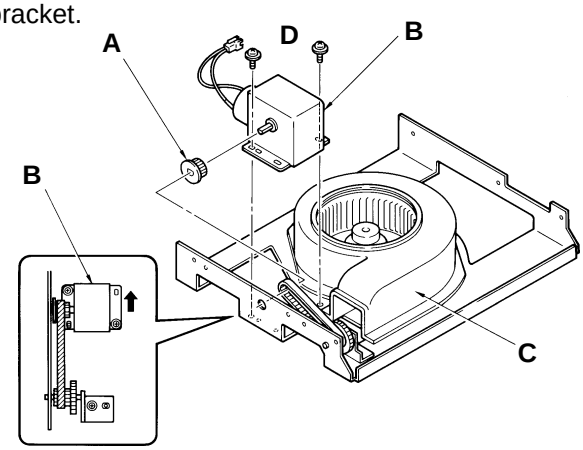
8. Wing Motor

< Removal Procedure >

1. Remove the Suction unit from the machine, referring to the page 7R-6.
2. Separate the Suction face cover unit from the Suction fan bracket, referring to the page 7R-7.
3. Remove two mounting screws on the Wing motor bracket, and remove the motor.

- Precautions in Assembly -

- Be careful not to attach the Wing motor pulley in the opposite direction.
- Secure the Wing motor, pulling it to apply tension to the belt.
- The positioning bosses on the Suction fan bracket should be matched with the holes on the Wing motor bracket.



A: Motor pulley
B: Wing motor
C: Suction fan
D: Pan-head IT Screw M3x5

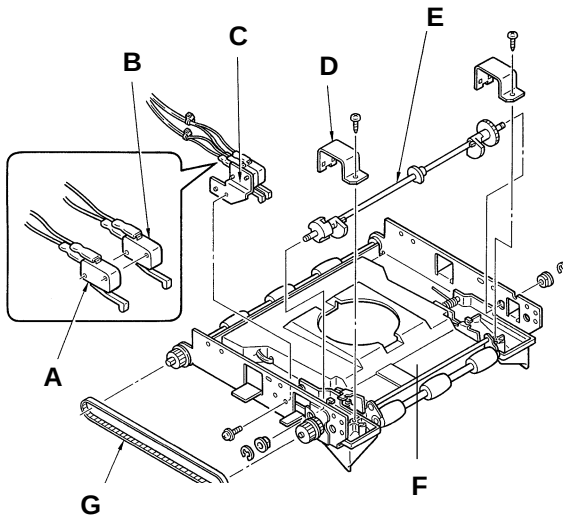
9. Jump Wing Sw, Wing Cam Shaft

< Removal Procedure >

1. Remove the Suction unit from the machine.
2. Separate the Suction face cover unit from the Suction fan bracket.
3. Remove the mounting screw of the Wing switch bracket, and remove the bracket together with the Jump wing switches.
4. Remove wires from the terminals of the Jump wing switches.
5. Remove the E-rings on both sides of the Wing cam shaft and bearing metals to remove the shaft.

- Precautions in Assembly -

- Check after assembly that the Jump wing switches are actuated ON and OFF by manually rotating the Wing cam shaft.



A: Jump wing SW 1
B: Jump wing SW 2
C: Wing switch bracket
D: Jump wing plate
E: Wing cam shaft
F: Suction face cover unit
G: Transfer drive belt

LED RCV1 Paper receiving sensor 1
– Light up when light path is blocked
RCV2 Paper receiving sensor 2
– Light up when light path is blocked
Test Mode No.19 Paper receiving sensor 1
– Short interval beeps when light path is blocked
No.20 Paper receiving sensor 2
– Short interval beeps when light path is blocked

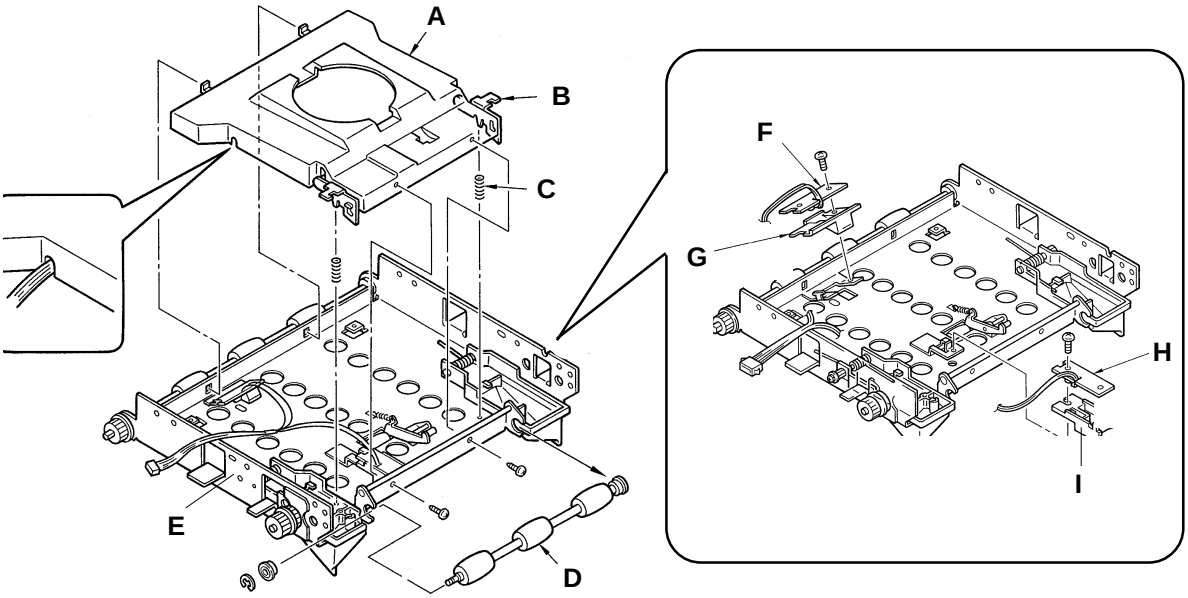
10. Paper Receiving Sensors (Send)

< Removal Procedure >

1. Remove the Suction unit from the machine.
2. Separate the Suction face cover unit from the Suction fan bracket and remove the Transfer belts.
3. Remove the Wing cam shaft and Wing switch bracket.
4. Remove an E ring and a metal bearing at one end of the Suction idler shaft and remove the shaft from the hooks of the Suction face cover.
5. Remove two mounting screws of the Upper suction cover, and remove the cover.
   [IMPORTANT]
   Be careful not to lose the springs attached onto the Side flaps on both sides of the Upper suction cover.
6. Remove the mounting screws on the Paper receiving sensors 1 and 2, and remove the sensors.

- Precautions in Assembly -

- The Wire harness of the Paper receiving sensors should be led through the opening on the Upper suction cover.
- Insert the hooks of the Upper suction cover into the holes of the Suction face cover.

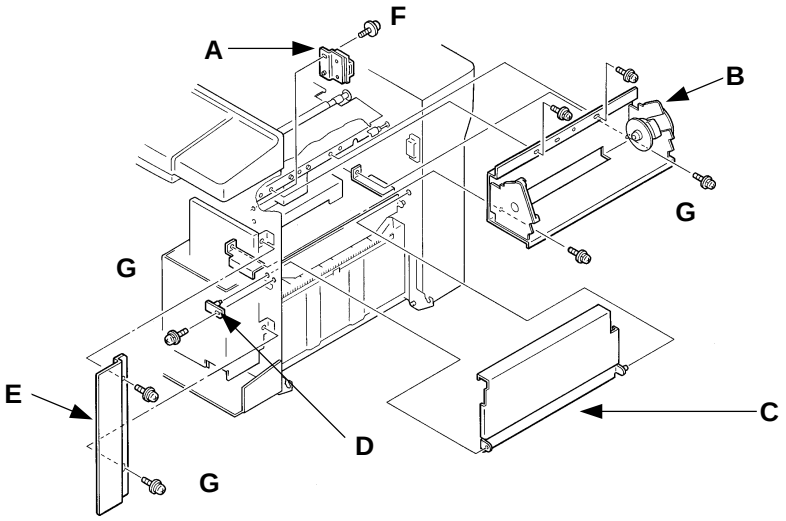


A: Upper suction cover
B: Side flap
C: Side flap spring
D: Suction idler shaft
E: Suction face cover
F: Paper receiving sensor 1
G: Paper rcv. sensor cover 1
H: Paper receiving sensor 2
I: Paper rcv. sensor cover 2

11. Separation Fan and Stocker Unit (A3 MACHINE)

< Removal Procedure >

1. Disconnect the Power cord and remove the Front right cover.
2. Remove two mounting screws on the Power supply right cover, and remove it.
3. Remove the mounting screw on the Master holder cover set plate, and remove the plate. Pull down the Master roll holder cover and remove it.
4. Remove two mounting screws on the Magnet catch assembly, and remove it.
5. Remove four mounting screws on the Master roll holder unit, and remove the unit.



A: Magnet catch assembly
B: Master roll holder unit
C: Master roll holder cover
D: Master holder cover set plate
E: Power supply right cover
F: Bind-head Screw M4x6
G: Pan-head Screw Sw. W M4x6

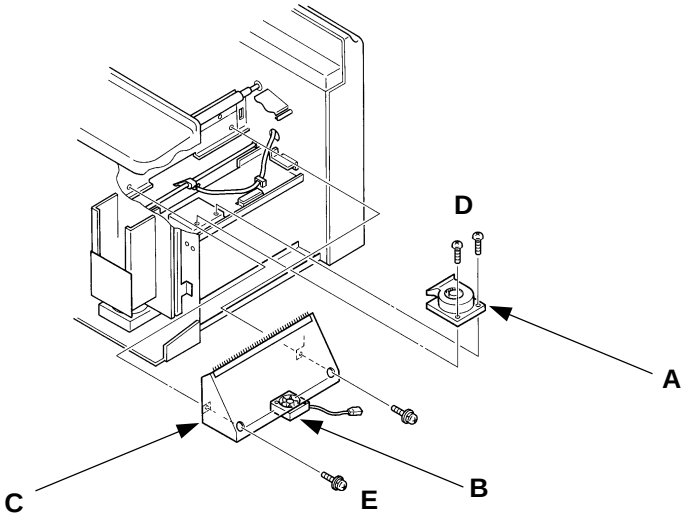
6. Disconnect the Connector of the Separation fan.
7. Remove two mounting screws of the Separation fan and remove the fan.

- Precautions in Assembly -

- The Separation fan has two connectors, but one of them is unused(purple, grey).

- Stocker Unit

6. Disconnect the connector of the loading fan, remove two mounting screws of the Stocker unit and remove the unit with Loading fan attached.



A: Separation Fan Assembly
B: Loading Fan
C: Stocker Unit
D: Bind-head Screw M4x6
E: Pan-head Screw SW.W M4x8

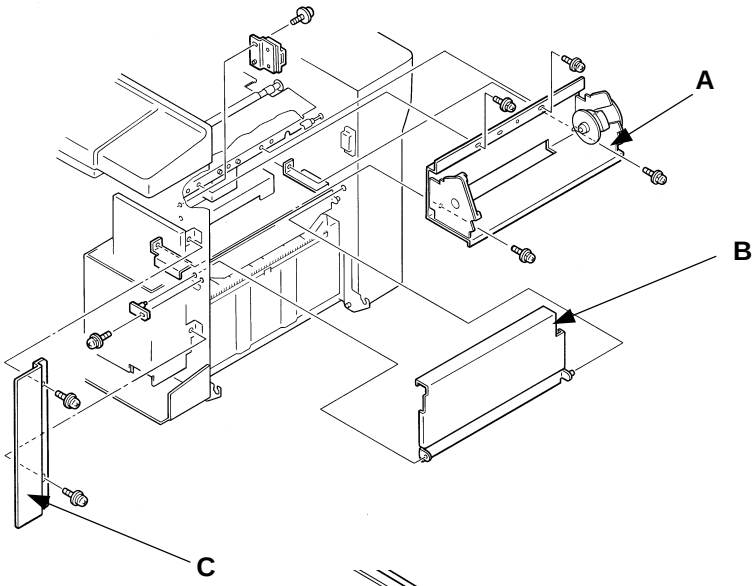
12. Separation Fan (B4/A4 MACHINE)

< Removal Procedure >

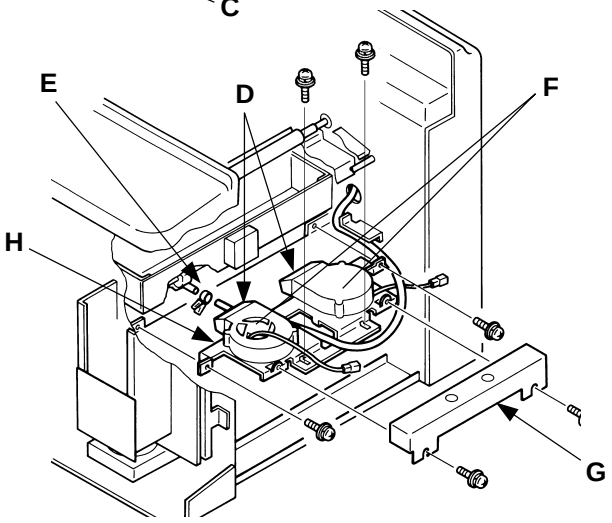
1. Remove the Drum from the machine, disconnect the Power cord, and remove the Front right cover.
2. Remove two mounting screws of the Power supply right cover, and remove it.
3. Remove the mounting screw on the Master holder cover set plate, and remove the plate. Pull down the Master roll holder cover and remove it.
4. Remove four mounting screws of the Master roll holder unit, and remove the unit.
5. Remove two mounting screws on the Set guide plate.
6. Disconnect the connector of the sensor and take out the Set guide plate from the machine.
7. Remove two mounting screws on the Separation fan cover, and remove the cover.
8. Disconnect the connector of the Separation fan.
9. Release the Separation air pump from the clamper, remove four mounting screws of the Separation fan bracket and take out the bracket with the separation fans attached.

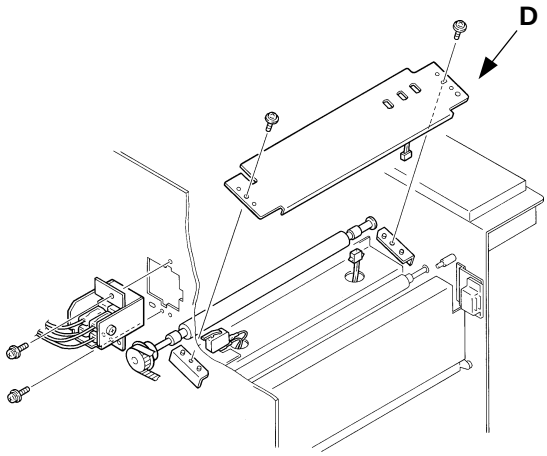
- Precautions in Assembly -

- The positioning bosses on the upper stay shoud be matched with the holes on the Master roll holder unit.



A: Master roll holder unit
B: Master roll holder cover
C: Power supply right cover
D: Set guide plate
E: Clamper
F: Separation fan
G: Separation fan cover
H: Separation fan bracket





REMOVAL & ASSEMBLY

LED RCV1 Paper receiving sensor 1
– Light up when light path is blocked
LED RCV2 Paper receiving sensor 2
– Light up when light path is blocked
Test Mode No.19 Paper receiving sensor 1
– Short interval beeps when light path is blocked
No.20 Paper receiving sensor 2
– Short interval beeps when light path is blocked

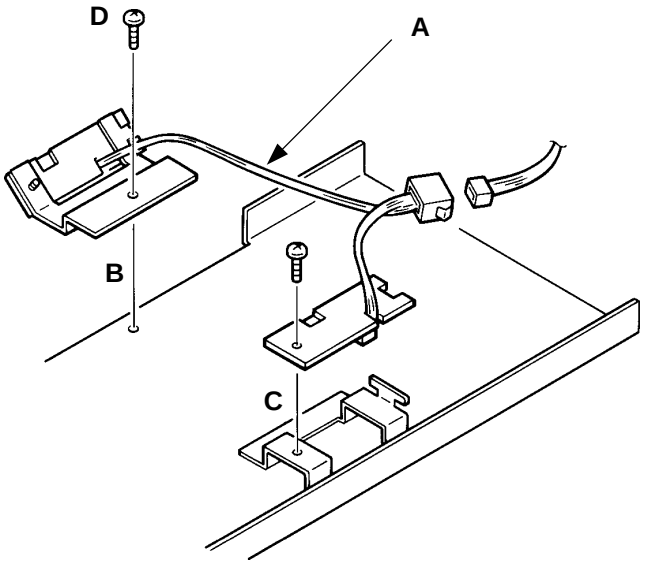
13. Paper Receiving Sensors (Receive)

< Removal Procedure >

1. Disconnect the power cord and remove the following parts:
   - Front right cover
   - Power supply right cover, Master holder cover set plate, Master roll holder cover, Master roll holder unit.
   - Separation fan assembly (Stocker unit for the A3 machine only)
2. Disconnect the connector of the Paper receiving sensors (receive).
3. Remove the mounting screw on the Paper receiving sensor bracket, and remove the bracket with the Paper receiving sensor 1 attached, from the bottom of the middle stay.
4. Remove the securing screw on the Paper receiving sensor 2.

- Checking after Assembly -

- Check whether the light path of the Paper receiving sensors 1 and 2 are aligned.



A: Paper receiving sensors(receive)
B: Paper receiving sensor 1
C: Paper receiving sensor 2
D: Bind-head Screw M3x6

ADJUSTMENT

1. Position of Separator

1. Remove the Back cover.
2. Rotate the Drum by pressing **SW1** on the **System PCB** until the tip of the Separator is positioned close to the surface of the Drum, if necessay.
   Turn OFF the power.
3. Check if the tip of the Separator is **1.0 ~ 2.0 mm** off the Drum.
4. If not, loosen the securing screws of the Separator adjustment plate on the plate itself and on the side frame of the machine to adjust the position of the Separator.
   Move up or down the Separator adjustment plate by moving the securing screw on the side frame to place the Separator at the position where its tip is **1.0 ~ 2.0 mm** off the Drum.
5. Tighten the securing screws of the adjustment plate and turn ON the power.
6. Check by rotating the Drum with a press of SW1 on the System PCB that the Separator does not get in contact with the surface of the Drum at any other positions.
7. If it does, re-adjust the position of the Separator by repeating the procedures in the steps 2 to 4 above.

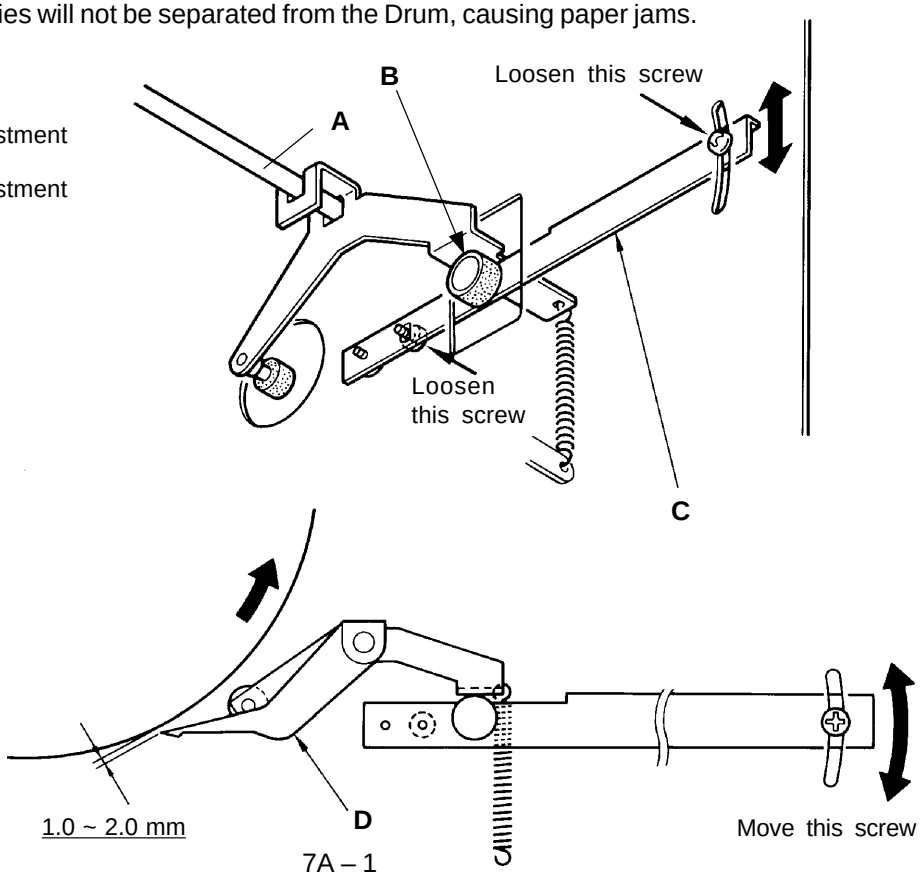
- Precautions in Adjustment -

- Check that a printed sheet is separated from the Drum if it has at least a **10mm**-margin at the top after adjustment.

- Results of Misadjustment -

- If the tip of the Separator is in contact with the Drum;
  it will scratch the surface of the master on the Drum, creating black lines in the middle of printed copies or will damage the screens.
- If the tip of the Separator is placed far off the Drum;
  printed copies will not be separated from the Drum, causing paper jams.

A: Separator shaft
B: Separator adjustment collar
C: Separator adjustment plate
D: Separator



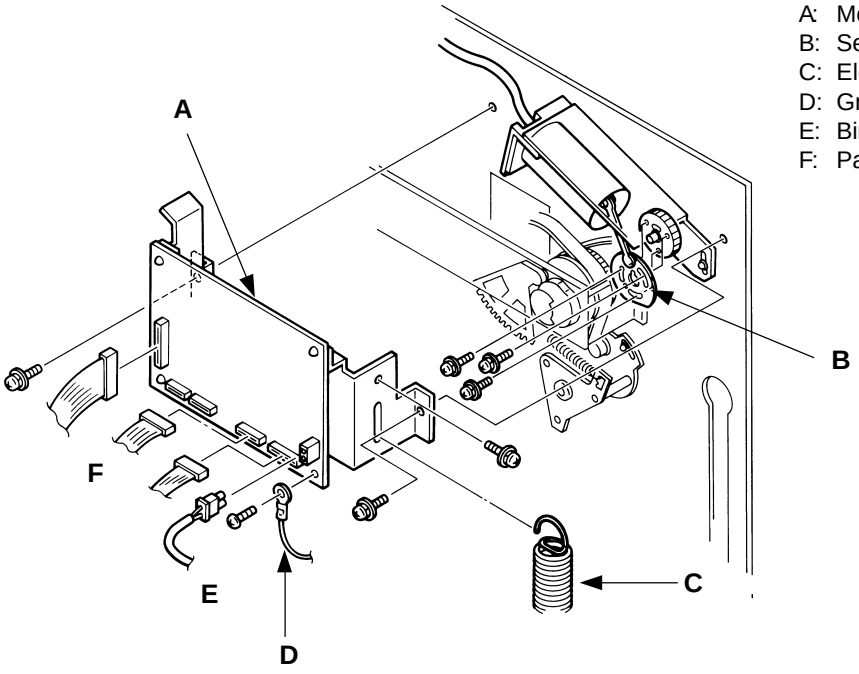
2. Position of Separation Pump Pulley Plate (Timing Adjustment of Separator Air Blow)

- Checking and Method

1. Move up the Paper feed tray, set the Drum to the position A, turn OFF the power, and remove the Back cover.
2. Remove the Elevator spring from the Motor control PCB bracket.
3. Disconnect the connector from the Motor control PCB. Remove three mounting screws of the Motor control PCB bracket and remove the bracket with the Motor control PCB attached.
4. Check that the alignment holes of the Separation pump pulley plate and Separation air pump bracket are aligned with each other.(See Fig. a)
5. If they are misaligned, loosen three securing screws on the Separation pump pully plate, and adjust the position.

- Phenomenon -

- If the mounting position of the Separation pump pulley plate is dislocated, an air blow timing may go out of tune, causing paper jams.



A: Motor control PCB
B: Separation pump pulley plate
C: Elevator spring
D: Ground wire
E: Bind-head screw M3x6
F: Pan-head screw SW. W M4x6

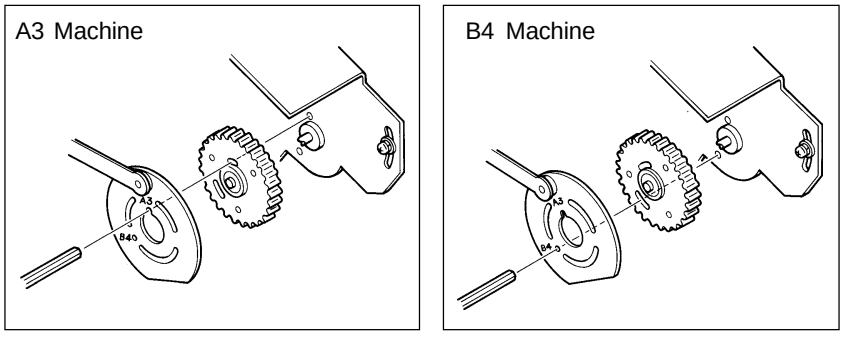


Fig. a

Since the paper feed timing of A3 machine is faster than other machine, it is necessary to quicken the air blow timing.